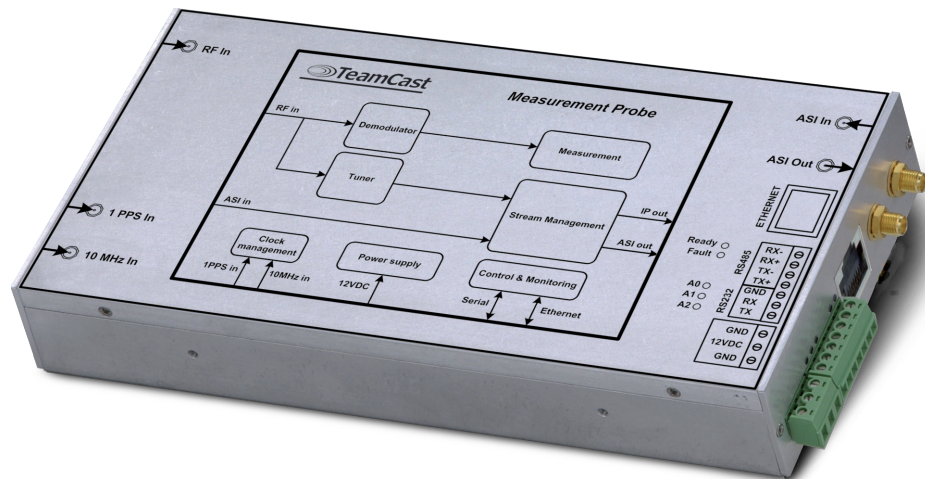


# RQX-1000

## OEM QoS Measurement Probe



### Key features:

- DVB-T/T2 or ISDB-T/T<sub>B</sub> full and real time demodulation and measurements
- Dual RF and TS over ASI inputs
- High level of MER measurement performance
- Advanced monitoring features: MER, Spectrum display, Constellation, SFN Window, etc.
- Access control via Serial communication port or via IP over Ethernet
- Compact size for easy OEM integration

### Description

The RQX-1000 is a very innovative OEM solution especially designed to perform the Terrestrial Digital TV signal quality measurements. Broadcasters are becoming more and more concerned by monitoring their Digital TV network infrastructure as they are developing a global Quality Of Service (QoS) approach. One critical part of a DTV infrastructure is the transmission sites and the DTV transmitters. The demand to monitor the QoS figures for DTV transmitters is therefore increasing and the global strategy of TeamCast is to address those needs with a very compact solution offering best class of DTV signal monitoring features. RQX-1000 consists in a compact size OEM module, ready to be integrated within transmitters or within QoS integrated solutions. It includes a DTV demodulator to perform signal decoding to supply stream output. Additionally, a front-end low noise tuner is implemented to authorize high performance of MER measurement that is commonly requested for QoS monitoring purpose. To ease its integration within QoS completed system, RQX-1000 features an IP over Ethernet port used for both product control and streaming output. RQX-1000 product family consists of several models covering DVB-T/T2 and ISDB-T/T<sub>B</sub> applications.

### Comprehensive set of monitoring features

RQX-1000 provides a large choice in term of retrieved monitoring parameters and data. Typical RF signal performance figures such as Input level, MER, Signal to Noise ratio (C/N), Bit Error Rate and Packet or Frame Error Rate are collected in real-time. Furthermore, the user can upload more complex and added-value measurement data such as the RF signal spectrum display, the I/Q constellation diagram, the signal power bar graph as well as the SFN Window.

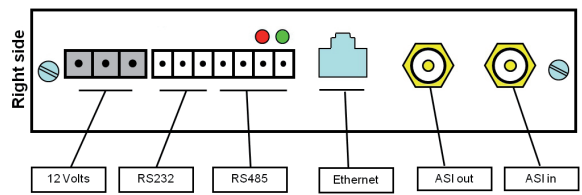
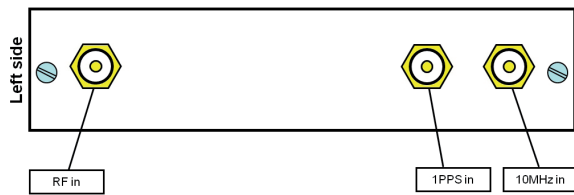
### Compact and easy to integrate

As with all TEAMCAST modules, the RQX-1000 product consists of compact and powerful OEM unit, especially designed and developed for fast integration. Designers can elect to manage the RQX-1000 by using an opened and simple communication protocol accessible either via the serial port or via the IP interface. RQX-1000 supports both RF input and ASI input interfaces in order to monitor the transmitter input stream in one hand and in the other hand the radiated RF signal. This in particular saves the need for the integrator to install an additional ASI interface board within its own design.

# RQX-1000

## OEM QoS Measurement Probe

### Connectors



### Specifications<sup>1</sup>

#### ■ Supported Standards

- o DVB-T/H: EN 300 744, EN 302 304
- o DVB-T2: EN 302 755, TS 102 831 EN 102 773
- o ISDB-T/T<sub>B</sub>: ARIB STB-B31 and TR-B14

#### ■ RF Input

- o 1 x SMA connector - 50 Ω
- o Input level: -30 dBm/ -90 dBm
- o VHF (170-230 MHz) and UHF (470-862 MHz) in ISDB-T/T<sub>B</sub>
- o 48 MHz to 862 MHz in DVB-T/T2
- o Bandwidth: 6, 7 or 8 MHz

#### ■ ASI Input

- o 1 x SMA connector - 75 Ω
- o Format 188/188 + 8(+8)/204 bytes, Burst or Packet mode, 50 Mbps max

#### ■ ASI Output

- o 1x SMA connector - 75 Ω
- o Format 188/188 + 8(+8)/204 bytes, Burst or Packet mode, 50 Mbps max

#### ■ Gigabit Interface

- o 10/100/1000 Electrical Base-T
- o Streaming protocol: UDP/IP/Ethernet
- o 100 Mbps max
- o Addressing mode: Unicast/Multicast

#### ■ Measurement probes

- o Full band input level: -10 dBm to -50 dBm
- o Channel Input level: -30 dBm to -90 dBm
- o Left and right shoulder: > 44 dB
- o Signal to Noise Ratio (SNR)
- o Carrier Frequency Offset (CFO)
- o MER: 15 dB to >36 dB
- o BER, PER (ISDB-T/T<sub>B</sub>)
- o Pre LDPC BER, Pre BCH BER, FER (DVB-T2)
- o MPEG-TS figures: TS\_Sync, Continuity\_count\_error, PCR jitter, PCR repetition and PTS difference

#### ■ Measurement data

- o Recovery transmission mode (TMCC for ISDB-T/T<sub>B</sub>)
- o Signal Power Bar graph
- o SFN Window (5 main echoes)

#### ■ Measurement displays

- o Channel Spectrum
- o Constellation Pattern
- o Channel Impulse Response (CIR)

#### ■ Control port

- o Serial control protocol via RS-232/RS-485
- o HTTP control interface via Ethernet
- o Control protocol: XML over HTTP or FTP

#### ■ Physical

- o Supply voltage: 12 VDC - 14 W max
- o Compact aluminium package (220 x 110 x 35 mm)
- o Operating temperature range: 0 °C to 50 °C

### Ordering Information

| Product references | Standards portfolio<br>Software licence(s)  |
|--------------------|---|
| xTQM-RQX0-1410     | DVB-T/T2 OEM Demodulator for QoS Measurement (size C module)  |
| xTQM-RQX0-1510     | ISDB-T/T <sub>B</sub> OEM Demodulator for QoS Measurement (size C module)                                       |
| xTQM-RQX0-1010     | DVB-T OEM Demodulator for QoS Measurement (size C module)   |
| xTQ0-RQX6-1000     | Advanced measurement features for RQX (Fine MER, Spectrum, Shoulder, SFN Window, CIR, Power Bar Graph, PCR/PTS) |
| xTQ0-RQX7-1000     | SNMP licence for RQX0-1010 or RQX0-1410   |

<sup>1</sup> Specifications are not contractual and are subject to revision without notice.